

IN THE CLAIMS

Amend the claims as follows.

1. (Amended) A method for purifying plasmid DNA from a mixture of same containing at least one host cell impurity comprising the following steps:

- a7
- SUB B1)
- (a) forming a solution by adding sufficient salt to said mixture to allow selective binding of said at least one host cell impurity to a hydrophobic interaction media;
 - (b) contacting said solution containing plasmid DNA with said hydrophobic interaction media under conditions that said at least one impurity binds to the hydrophobic interaction media to form a complex; and
 - (c) collecting unbound plasmid DNA from said complex;

wherein said method is conducted in the absence of non-aqueous solvents, detergents, glycols, hexamine cobalt, spermidine, and polyvinylpyrrolidone.

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SUB B2)

5. (Amended) The method of claim 4 wherein the salt is ammonium sulfate in a concentration range of about 2M to 4M.

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7. (Amended) The method of claim 1 wherein the solution comprises sodium salts in a concentration range of about 2M to 4M.

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14. (Amended) The method of claim 12 wherein the hydrophobic interaction media are selected from the group consisting of a methacrylate polymer or copolymer backbone bound to a least one of a propyl, butyl, hexyl, octyl, nonyl or decyl ligand.

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16. (Amended) The method of claim 12 wherein the support is in the form of bead in the size range of 15 to 100 μm .

17. (Amended) A method of separating supercoiled plasmid DNA from a mixture of supercoiled plasmid DNA and relaxed plasmid DNA and, optionally, at least one host cell impurity comprising the following steps:

(a) forming a solution by adding a salt to the mixture of supercoiled plasmid DNA and relaxed plasmid DNA and, when present, said at least one host cell impurity;

Claim 1
(b) contacting the solution with a hydrophobic interaction media under a first condition where both the supercoiled plasmid DNA and relaxed plasmid DNA bind to the hydrophobic interaction media to form a bound first mixture;

(c) altering the first condition surrounding the bound first mixture to a second condition to remove relaxed plasmid DNA from the bound first mixture to form separate components containing a second bound mixture and relaxed plasmid DNA; and

(d) modifying the second condition surrounding the said second bound mixture to a third condition to remove supercoiled plasmid DNA from said second bound mixture to form separate components containing hydrophobic interaction media and supercoiled plasmid DNA.

Claim 2
27. (Amended) The method of claim 17 wherein the first condition comprises equilibrating said media with a salt solution containing ammonium sulfate which is present in a concentration range of about 2.5M to 4M.

28. (Amended) The method of claim 17 wherein the second condition comprises washing the media with a salt solution containing ammonium sulfate in a concentration of about 2.35M to about 2.45M.

Q12
29. (Amended) The method of claim 17 wherein the said third condition comprises washing said second bound mixture with a salt solution containing ammonium sulfate in a concentration of about 1M to 2.3M.

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41. (Amended) A method of separating supercoiled plasmid DNA from relaxed plasmid DNA comprising contacting a mixture of supercoiled plasmid DNA and relaxed plasmid DNA with a hydrophobic interaction media under a first condition where both the supercoiled plasmid DNA and the relaxed plasmid DNA bind to said hydrophobic interaction media to form a bound first mixture, altering said first condition surrounding the bound first mixture to a second condition to remove said relaxed plasmid DNA from said bound first mixture to form separate components containing a second bound mixture and said relaxed plasmid DNA, and modifying the second condition surrounding said second bound mixture to a third condition to remove said supercoiled plasmid DNA from said second bound mixture to form separate components containing said hydrophobic interaction media and said supercoiled plasmid DNA.

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SUB BY
46. (Amended) The method of claim 41 wherein said support is in the form of beads ranging in size from 35 to 100 μm .

47. (Amended) The method of claim 41 wherein said first condition comprises equilibrating said media with a salt solution containing ammonium sulfate in a concentration range of about 2.5 M to about 4 M.

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48. (Amended) The method of claim 47 wherein said second condition comprises washing said bound first mixture with a salt solution containing ammonium sulfate in a concentration of about 2.35 M to about 2.45 M.

49. (Amended) The method of claim 48 wherein said third condition comprises washing said second bound mixture with a salt solution containing ammonium sulfate in a concentration of about 1 M to about 2.3M.

52. (Amended) A method for the enriching supercoiled DNA relative to relaxed DNA in a mixture thereof, the method comprising:

- (1) interacting a mixture containing supercoiled DNA and relaxed DNA with a hydrophobic interactive media comprising an alkyl moiety under ionic conditions wherein the supercoiled DNA preferentially binds to the hydrophobic interactive media;
- (2) treating the hydrophobic interactive media, relaxed DNA and supercoiled DNA under ionic conditions that allow the preferential removal of the relaxed DNA; and
- (3) eluting the supercoiled DNA from the hydrophobic interactive media.

53. (Amended) A method for removing lipopolysaccharide (LPS) from a composition containing DNA, the method comprising:

- (1) interacting a mixture comprising the DNA and LPS with a hydrophobic interactive media comprising an alkyl moiety, wherein the interacting is under ionic conditions where the LPS preferentially binds to the hydrophobic interactive media relative to the DNA; and
- (2) treating the hydrophobic interactive media containing the DNA and LPS with ionic conditions that allow the selective removal of the DNA.

REMARKS

Reconsideration is requested.